



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,757	07/30/2004	David Liller	81098405 (FMC 1746 PUS)	4756
28395	7590	03/03/2006	EXAMINER	
BROOKS KUSHMAN P.C./FGTL			SOLIS, ERICK R	
1000 TOWN CENTER			ART UNIT	PAPER NUMBER
22ND FLOOR			3747	
SOUTHFIELD, MI 48075-1238				

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the dependency of this claim is incorrect. It should depend from claim 19.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3747

5. Claims 1,8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakae et al (US Patent 5818116) in view of Nonomura et al. (US Patent No. 6584962). Nakae et al teaches controlling the fuel injection of an engine in a hybrid vehicle wherein fuel injection does not commence until a given target state is reached (when the speed and intake air are stabilized). This reference, however is silent regarding the details of how the fuel injection proceeds during the starting sequence. Nonomura et al teach a fuel injection control for an engine wherein during starting the fuel injection to each cylinder is individually controlled and timed (see col. 3 and col. 6, lines 26+). It would have been obvious to one of ordinary skill in the art to have implemented the fuel injection strategy taught by Nonomura et al into Nakae et al's engine since this would have provided for more accurate dosing of the fuel amount at starting and aided in reducing exhaust emissions.
6. Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakae et al in view of Nonomura et al as applied to claim 1 above, and further in view of either of Ament (US Patent No. 6769400) or Bayerle et al (US Patent No. 6796239). Both of these references teach abstaining from injecting fuel at start-up until a target state being reached, the target state being that the manifold air pressure is below a given value. It would have been obvious to have modified the combination of Nakae et al in view of Nonomura et al by letting the manifold air pressure drop below a certain value as the indicator of reaching the target state, as taught by both Hasegawa et al or Bayerle et al since this would have been an obvious equivalent way of determining stability in the air intake amount such that the engine would be ready for fuel injection while minimizing exhaust emissions.

Art Unit: 3747

7. Claims 1,4,8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al (US Patent 6274943) in view of Nonomura et al. (US Patent No. 6584962). Hasegawa et al teaches controlling the fuel injection of an engine in a hybrid vehicle wherein fuel injection does not commence until a given target state is reached (allowing a time delay to pass TIGEDLY). This reference, however is silent regarding the details of how the fuel injection proceeds during the starting sequence. Nonomura et al teach a fuel injection control for an engine wherein during starting the fuel injection to each cylinder is individually controlled and timed (see col. 3 and col. 6, lines 26+). It would have been obvious to one of ordinary skill in the art to have implemented the fuel injection strategy taught by Nonomura et al into Hasegawa et al's engine since this would have provided for more accurate dosing of the fuel amount at starting and aided in reducing exhaust emissions.

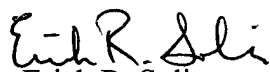
***Allowable Subject Matter***

8. Claims 9-15 are allowed.
9. Claims 3,5-7,18,19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claim 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 3747

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick R. Solis whose telephone number is (703) 308-2651. The examiner can normally be reached on Monday-Thursday.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

  
Erick R. Solis  
Primary Examiner  
Art Unit 3747

ers

February 27, 2006